



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,250	01/26/2004	Yuan-Mou Su	0941-0902P	8019

2292 7590 02/06/2006

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

BRADLEY, MATTHEW A

ART UNIT	PAPER NUMBER
----------	--------------

2187

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/763,250	Applicant(s) SU, YUAN-MOU	
	Examiner Matthew Bradley	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Status

Claims 1-3 remain pending and are ready for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner notes that the instant claim recites, 'refresh the DRAM memory cells *several* times by using the refresh cock.' The word several is indefinite and further clarification to the number of times the cells are refreshed is needed to ascertain the applicant's intended bounds with the usage of the word several.

Claim 1 recites the limitation 'the longest refresh interval' in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation 'the effectiveness' in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation 'the system' in lines 10 and 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the refresh clock" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the definition" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by
Feierbach (U.S. 6,256,703).

As per independent claim 1, Feierbach teaches,

- detecting device startup; (Column 2 lines 63-64)
- providing a clock pulse as a refresh interval; (Column 2 lines 64-67)
- self-testing a plurality of memory cells using the refresh interval; (Column 2 line 67 to Column 3 line 4)
- modifying the refresh interval and repeating the above steps; (Column 3 lines 6-8)
- determining the longest refresh interval as a result of the self-testing procedure; and (Column 3 line 60 to Column 4 line 11)
- using the appropriate refresh interval, defined by the longest refresh interval, to refresh the DRAM (Column 4 lines 8-10).

As per dependent claim 2, Feierbach teaches,

- writing an original test code to a plurality of DRAM memory cells; (Column 2 line 67 to Column 3 line 1)
- refresh the DRAM memory cells several times by using the refresh clock; (Column 3 lines 1-4)
- comparing saved test code with the original test code, to determine the effectiveness of the refresh interval; (Column 3 lines 3-4)
- if the result of the comparison is equal, the system outputs a self-test success signal; and (Column 3 lines 5-8). *The Examiner notes that Feierbach teaches the self-test success signal as instantly claimed with the system of Feierbach substituting a more aggressive refresh period in place of the current refresh period. Accordingly, the system of Feierbach anticipates the instant limitation by using a new refresh period indicating a success of the current refresh period.*
- if the result of the comparison is unequal, the system outputs a self-test failure signal (Column 3 lines 8-11). *The Examiner notes that as discussed supra, the system of Feierbach teaches a self-test signal by substituting a more aggressive refresh period in place of the current refresh period. Conversely, if the comparison fails, the system tries a more conservative refresh period. Accordingly, Feierbach teaches the self-test failure signal as instantly claimed with the system of Feierbach*

substituting a more conservative refresh period in place of the current refresh period

As per dependent claim 3, Feierbach teaches, wherein the definition of the most appropriate refresh interval comprises: the most appropriate refresh interval is the longest refresh interval plus a specific variable (Column 3 lines 11-15).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. U.S. 6,272,588 Johnston et al teach a method of determining a refresh interval for a DRAM.
2. U.S. 6,199,139 Katayama et al teach a refresh period control apparatus and method.
3. U.S. 5,761,703 Bolyn teaches a dynamic memory refresh control method.
4. U.S. 2001/0027541 Richter et al teach a method for testing the refresh of a memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2187

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAS/mb



DONALD SPARKS
SUPERVISORY PATENT EXAMINER